

BLYXA AUBERTII (HYDROCHARITACEAE) NEW TO MISSISSIPPI, U.S.A.

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ABSTRACT

Blyxa aubertii Rich. (Hydrocharitaceae) is reported as new to the flora of Mississippi. New and historical records, along with negative survey results from nearby states, are mapped at the county level. Voucher specimens are cited, and photographs of *B. aubertii* are provided.

RESUMEN

Se amplía el área de distribución de *Blyxa aubertii* Rich. (Hydrocharitaceae) al estado de Mississippi. Se realiza el mapa de distribución de la especie por condado basándose en nuevos registros, datos históricos y en resultados obtenidos del inventario de presencia/ausencia de especies no detectadas en los censos efectuados en estados aledaños. Se listan los ejemplares revisados en este estudio y se presentan fotografías de *B. aubertii*.

Blyxa aubertii Rich., a native of tropical and subtropical regions in Asia, Australia, and Africa (Wang et al. 2010), was first reported for North America, in Louisiana, over 40 years ago (Thieret et al. 1969). No new occurrences outside Louisiana have been reported since that time or listed in relevant treatments or databases (Godfrey & Wooten 1979; Cook & Lüönd 1983; Thomas & Allen 1993; Haynes 2000; McCook & Kartesz 2000; Haynes & Holm-Nielsen 2001; Diggs et al. 2006; Weakley 2012; Kartesz 2013; USDA, NRCS 2013). Thus, our collections of *Blyxa aubertii* represent a new record for Mississippi, augmenting several other recent records for the state (Majure 2007, 2008; Majure & Bryson 2008; Nesom 2010; Whitson 2010; Pruski 2011; Alford 2012; Urbatsch 2013). Since we found *B. aubertii* in four counties in south Mississippi and it was already known to occur in an equal number of parishes in south Louisiana, we predicted it might have also expanded its range to include parts of Texas and Alabama. While this prediction may still prove true, especially with more extensive surveys, we did not find *B. aubertii* or records of its occurrence in these states (Fig. 1).

Voucher specimens: **U.S.A. MISSISSIPPI. Forrest Co.:** Paul B. Johnson State Park, SE end of Geiger Lake, 31.137253°, -89.235334°, 9 Nov 2013, *McNair 1652* (USMS). **Lamar Co.:** Big Bay Lake, 31.201119°, -89.567456°, 8 Nov 2012, *Alford 4378* (BRIT, LSU, USMS). **Stone Co.:** Flint Creek Water Park, NE edge of lake, near the end of Day Use Road, 30.895945°, -89.124452°, 9 Nov 2013, *McNair 1651* (USMS). **Wayne Co.:** Maynor Creek Water Park, N of Reservoir Road, 31.65752°, -88.719192°, 8 Nov 2013, *McNair 1650* (MISS, MMNS, USMS).

We observed *Blyxa aubertii* only in anthropogenically disturbed habitats, specifically, in artificial lakes, submerged and rooted in nutrient poor substrates; we did not observe it in any naturally formed bodies of water such as oxbow lakes or rivers. Furthermore, the four lakes in which *B. aubertii* was found were all constructed between 1943 and 1974. The oldest of these, Geiger Lake, was finished in 1943 and surveyed for vascular plants in 1965–1966 (Carter & Jones 1968), so it is likely that *B. aubertii* established in Mississippi sometime after 1966.

Like a number of other aquatic monocots, *Blyxa aubertii* has septate leaves and roots, and in vegetative form it might be mistaken for its closest relative in the U.S., *Vallisneria americana*. The leaves of *B. aubertii* have somewhat noticeable midribs (Fig. 2 A, B) and acuminate apices, while the leaves of *V. americana* lack prominent midribs and have rounded apices. Also, *B. aubertii* has bisexual flowers (Fig. 2 C) and ridged seeds (Fig. 2 D), while *V. americana* has unisexual flowers and smooth seeds. In general, individuals of *Blyxa aubertii* are smaller with shorter and narrower leaves than *Vallisneria*. *Blyxa aubertii* may also be confused with *Eriocaulon aquaticum* and *Lachnocaulon anceps*. Common associates include *Nymphaea odorata* and *Juncus repens*. We

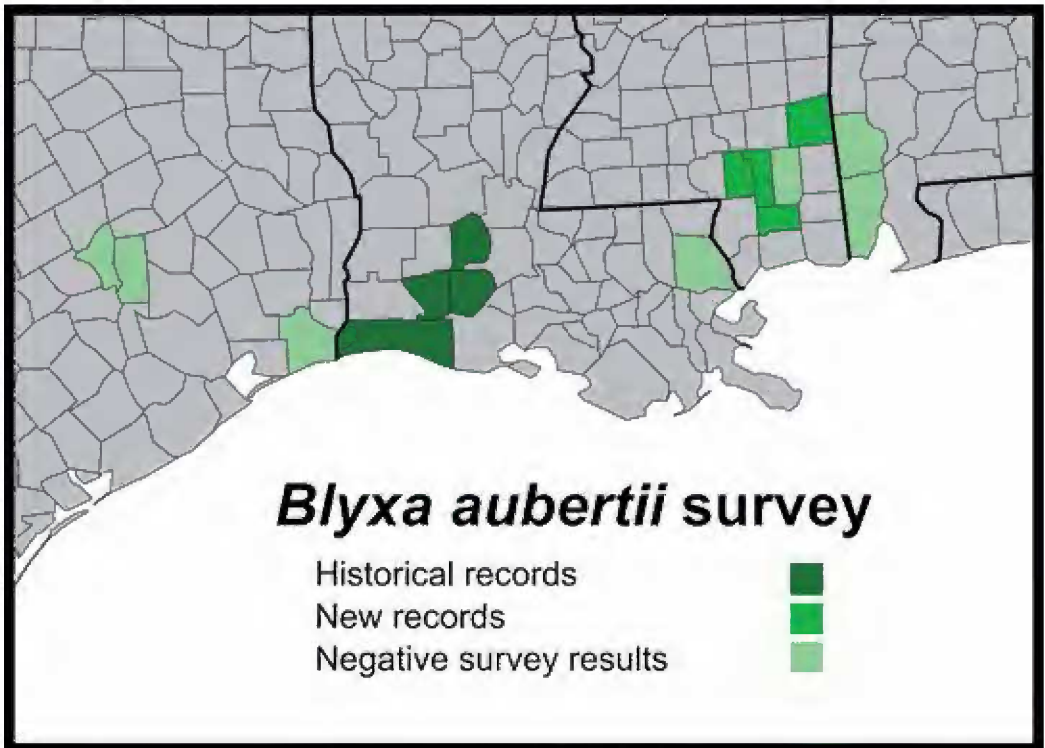


FIG. 1. Distribution of *Blyxa aubertii* in the United States.

observed that many of the plants were in bloom from August to December, the same phenology observed for *B. aubertii* in Japanese rice paddies (Jiang & Kadono 2001).

While *Blyxa aubertii* apparently continues to naturalize and increase its range in the U.S., we do not consider it a serious threat to native plants, at least not to those found in intact habitats, since *B. aubertii* seems confined to disturbed areas of artificial lakes. Still, we believe more investigation will be needed to elucidate this issue, especially if the species is found inhabiting natural bodies of water.

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FIG. 2. *Blyxa aubertii*. **A.** Detail of leaf. **B.** Rosette of leaves and roots. **C.** Flower. **D.** Seeds. (A–C, McNair 1650, D, Alford 4378).

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